

WHAT IS CLAIMED:

1. A system for modeling an automobile service facility, the system comprising a computer configured to:

5 receive input data defining customer characteristics, facility capabilities, and financial data for an automobile service facility;

generate a computer model of the service facility based on the customer characteristics, facility  
10 capabilities, and financial data; and

output one or more quantitative indications of expected facility performance based on the model.

2. The system of claim 1 wherein the computer is  
15 additionally configured to receive input defining a computer experiment to identify one or more service facility characteristics that have an impact on service facility efficiency or revenue.

20 3. The system of claim 2 wherein the computer is additionally configured to calculate and output an equation quantitatively interrelating one or more of the service facility characteristics that have an impact on service facility efficiency or revenue.

25 4. The system of claim 1 wherein the model utilizes probability to account for uncertainty in at least a portion of the input data.

30 5. The system of claim 1 wherein the customer characteristics include customer arrival rates, desired services, or the number of desired services per customer.

6. The system of claim 1 wherein the facility capabilities include personnel quantities, technician skills, technician efficiency, work hours, or personnel absences.

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7. The system of claim 1 wherein the facility capabilities include one or more statistical indicia of one or more service times associated with customer experiences at the service facility.

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8. The system of claim 1 wherein the financial data includes one or more statistical indicia of part and labor revenue associated with one or more service types.

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9. The system of claim 1 wherein the one or more quantitative indication(s) of expected facility performance include expected financial performance, technician utilization, or time to process customers.

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10. The system of claim 9 wherein the time to process customers includes a time to process discrete customer services or a time of overall customer experience at the service facility.

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11. A method for modeling an automobile service facility, the method comprising a computer configured to:  
receiving data defining customer characteristics, facility capabilities and financial data for an automobile service facility;

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generating a computer model of the service facility based on the customer characteristics, facility capabilities, and financial data; and

calculating one or more quantitative indications of expected facility performance based on the model.

12. The method of claim 11 additionally  
5 comprising conducting a computer experiment to identify one or more service facility characteristics that have an impact on service facility efficiency or revenue.

13. The method of claim 12 wherein the computer  
10 experiment results in a quantitative expression interrelating one or more of the service facility characteristics that have an impact on service facility efficiency or revenue.

14. The method of claim 13 additionally  
15 comprising changing the operation of the service facility to improve efficiency or revenue based at least in part on the relative quantitative significance of factors making up the quantitative expression.

20 15. The method of claim 11 wherein the model utilizes probability to account for uncertainty in at least a portion of the received data.

25 16. The method of claim 11 wherein the customer characteristics include customer arrival rates, desired services, or the number of desired services per customer.

30 17. The method of claim 11 wherein the facility capabilities include personnel quantities, technician skills, technician efficiency, work hours, or personnel absences.

18. The method of claim 11 wherein the facility capabilities include one or more statistical indicia of one or more service times associated with customer experiences at the service facility.

5           19. The method of claim 11 wherein the financial data includes one or more statistical indicia of part and labor revenue associated with one or more service types.

10           20. The method of claim 11 wherein the one or more quantitative indication(s) of expected facility performance include expected financial performance, technician utilization, or time to process customers.

15           21. The method of claim 20 wherein the time to process customers includes the time to process discrete customer services or the time of overall customer experience at the service facility.

20           22. A method for modeling an automobile service facility, the method comprising:

          defining customer characteristics, facility capabilities, and financial data for an automobile service facility;

25           a step for generating a computer model of the service facility based on the customer characteristics, facility capabilities, and financial data wherein at least one quantitative indication of expected facility performance based on the model is calculated.

30           23. The method of claim 22 additionally comprising a step for conducting one or more computer experiments to define a quantitative expression

interrelating one or more factors that impact service facility revenue or efficiency.